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Modeling host-seeking behavior of African malaria vector mosquitoes in the presence of long-lasting insecticidal nets

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Highlights

- An agent based model of mosquito host-seeking behavior in the presence of Long Lasting Insecticidal Nets (LLINs) is presented and calibrated against experimental data.
- The overall impact of LLINs for the two different mosquito species was quantified using model simulations.
- Using Bayesian uncertainty quantification methods it was shown that while large uncertainties remain in some of the model parameters, all the parameter sets produce statistically identical result for the overall protection.
- Model simulations were generalized to community-scale scenarios that demonstrated systematically lower efficiency of LLINs in control of *Anopheles arabiensis* compared to *Anopheles gambiae*

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